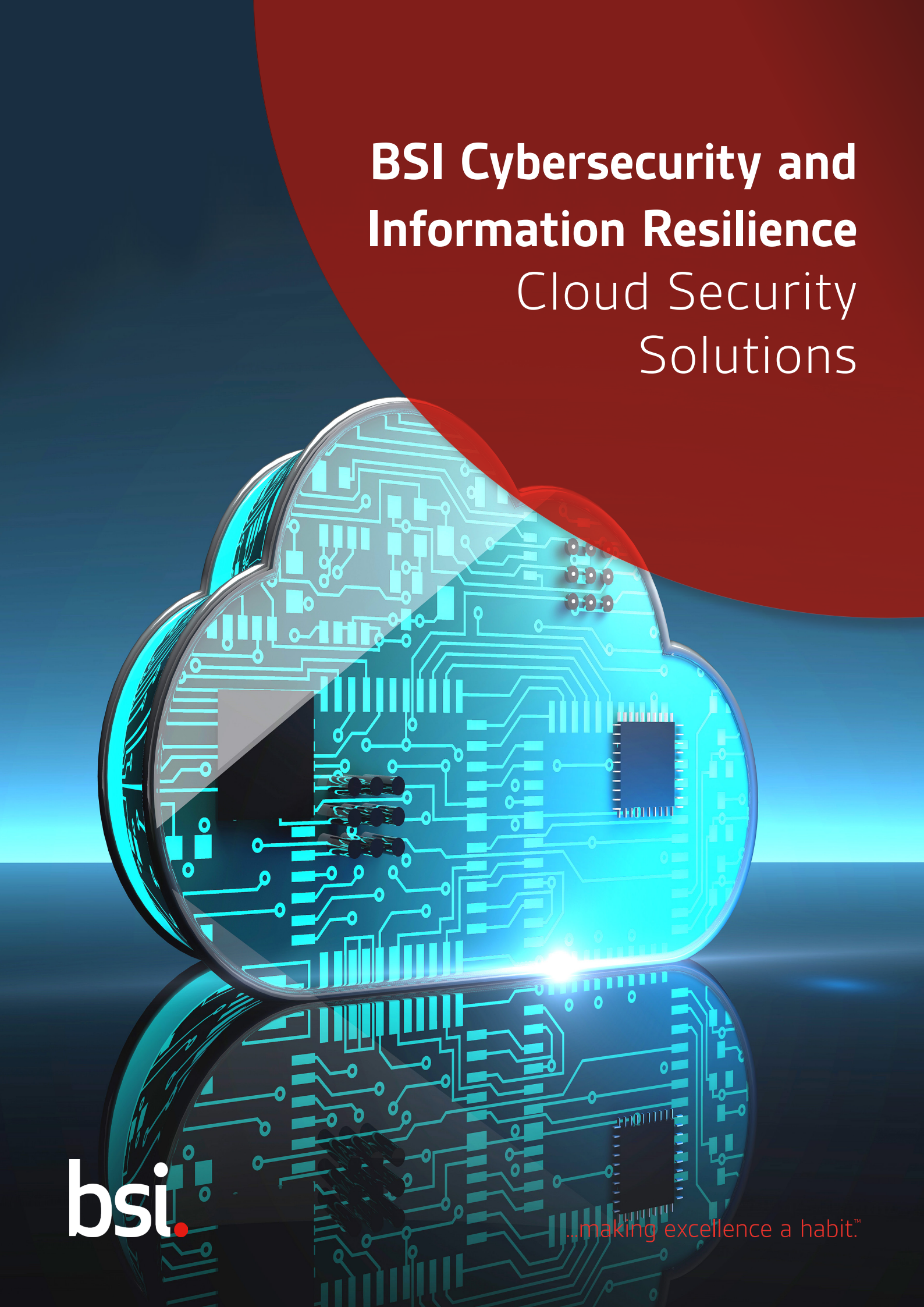
BSI Cybersecurity and Information Resilience

Cloud Security Solutions



bsi.

...making excellence a habit.™

The challenge of maintaining the privacy, integrity, reliability, and compliance of information has increased considerably. Businesses must be able to evaluate the impact of a move to a cloud solution and successfully manage software platforms and infrastructure once in the cloud.

Who are we?

BSI Cybersecurity and Information Resilience (CSIR) helps organizations achieve a state of enhanced and sustainable Information Resilience through its four main integrated and woven sets of products and services:

- Cybersecurity services
- Information management and data privacy
- Security awareness and training
- Compliance services

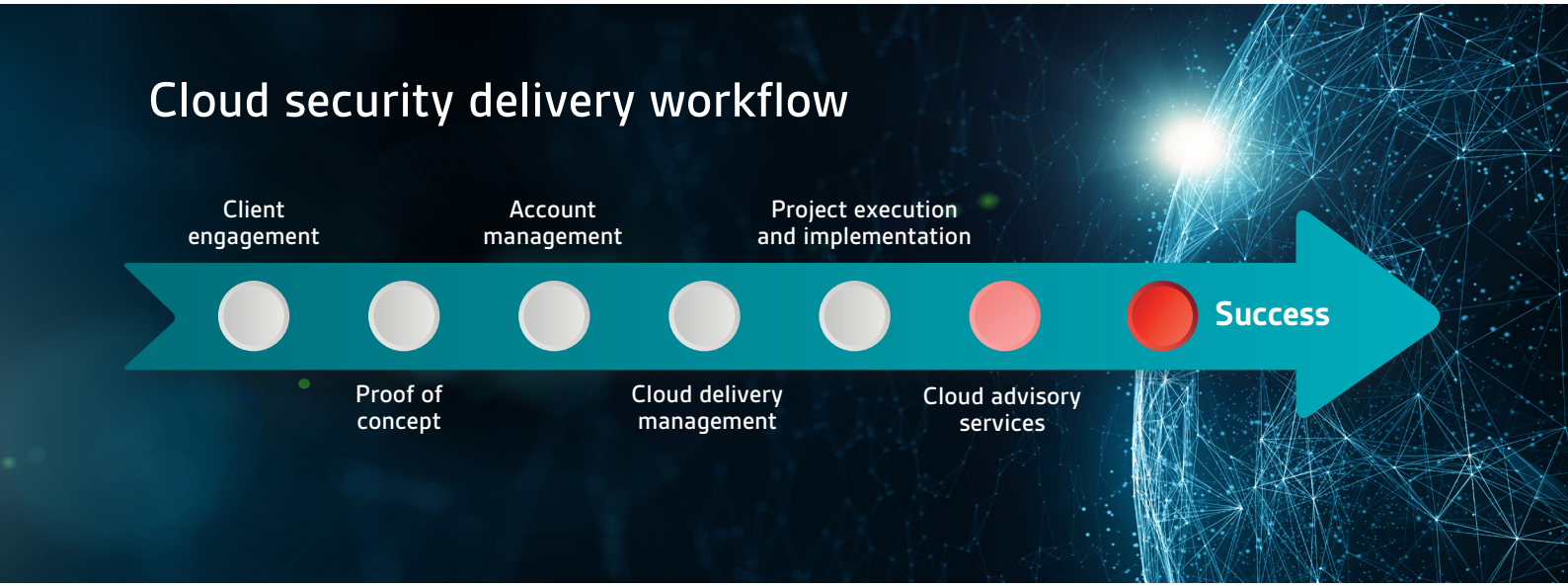
Our experienced consultants work with you to clarify your needs, help you select and implement technologies, thus servicing your organization's requirements.

Cybersecurity services

With data breaches and malicious attacks on the rise, organizations need to employ the most proficient cybersecurity strategy available.

This covers a broad spectrum of testing and vulnerability management services, including penetration testing, gold standard Red Teaming (CREST approved) and incident management protocols.

Within these services, BSI also provides best-in-class cloud security solutions, from web security and Cloud Access Security Brokerage (CASB) to Identity and Access Management (IAM) and data protection in the cloud.



The workflow above details the cloud security delivery process that outlines the stages to consider when migrating and operating with our recommended solutions.

We can assist you at every stage of your cloud journey from planning, assessment, review, management and compliance.

We'll be there from initial assessment to full installation, as well as providing quarterly reviews to ensure you're always getting the most out of your solutions.

We work with leading cloud security partners to provide a range of solutions tailored to your individual needs.

Our recommended product offerings are:

- Secure Internet and Web Gateway
- Cloud Access Security Broker (CASB)
- Identity and Access Management (IAM)
- Data Management in the Cloud

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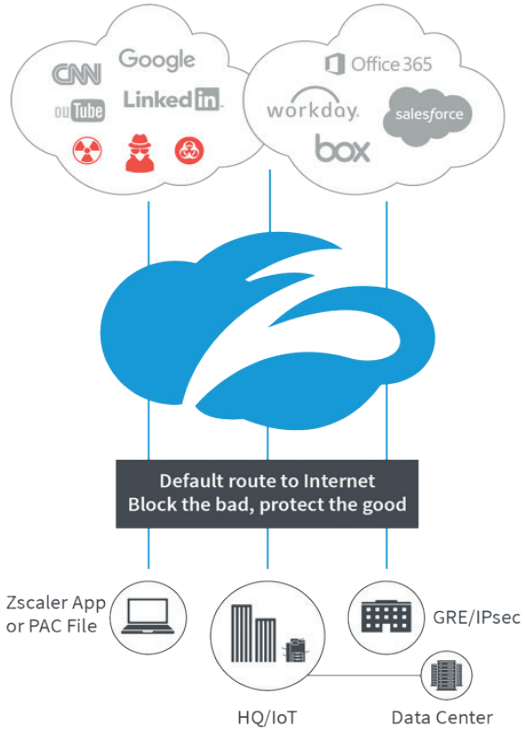
Secure Internet and Web Gateway

Zscaler is a cloud security platform that delivers complete internet and web security, and has been a leader in the Gartner Magic Quadrant for Secure Web Gateways for several years. Zscaler services are 100% cloud delivered, offer simplified IT administration, enhanced security with automated updates, and a fast and secure user experience - all without hardware appliances.

Secure web gateway is part of the Zscaler Cloud Security Platform, which uses software-defined business policies, not appliances, to securely connect the right user to the right application, regardless of device, location, or network.



Key features:

- **Complete cloud security stack**: Includes web and URL filtering, sandboxing, cloud firewall, CASB and DLP
- **Transform your security model**: Embrace a direct-to-cloud connection model and break free from costly appliances and network infrastructure
- **Unlimited capacity**: With over 100 data centre locations, performance is always fast, and you'll never run out of capacity
- **Full SSL visibility:** Unlimited inbound and outbound SSL inspection
- **Fully integrated**: Enjoy integrated policies and contextual threat visibility from day one
- **Smarter cloud intelligence**: Any threat detected is instantly shared and blocked across all our cloud

Zscaler Cloud Security Platform

Security stack as a service

Zscaler Internet Access (ZIA) delivers the complete security stack as a service from the cloud, wherever users connect. ZIA scans every byte of traffic to ensure that nothing bad comes in and nothing good leaks out.

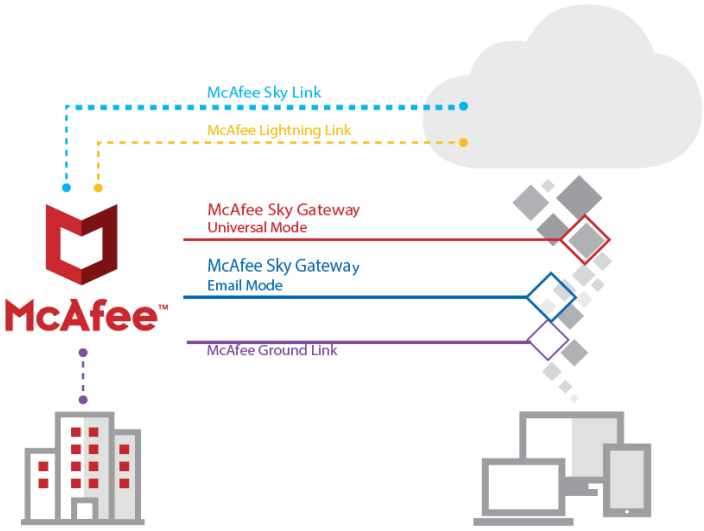
Eliminate cost and equipment

Zscaler Private Access (ZPA) offers authorized users zero trust, secure remote access to internal applications hosted in the data centre or public clouds - without a VPN. It provides a software-defined perimeter that works across any IT environment, device and internal application.

Cloud Access Security Broker

Cloud Access Security Broker (CASB) is an essential security technology that helps organizations to extend the security controls of their on-premises infrastructure to the cloud. BSI partners with McAfee to provide MVISION Cloud solution, an evolution of the Skyhigh CASB service, that provides total threat defense and data protection from device to cloud.

MVISION Cloud is trusted by organizations to protect their data in thousands of cloud services. With the world's largest and most accurate cloud registry, MVISION Cloud has complete visibility of the data, context, user behaviour across all cloud services, users, and devices. It enables enterprise-grade services in demand that can be enabled, as well as redundant services that can be consolidated to reduce cost, improve collaboration, and high-risk services that should be avoided.

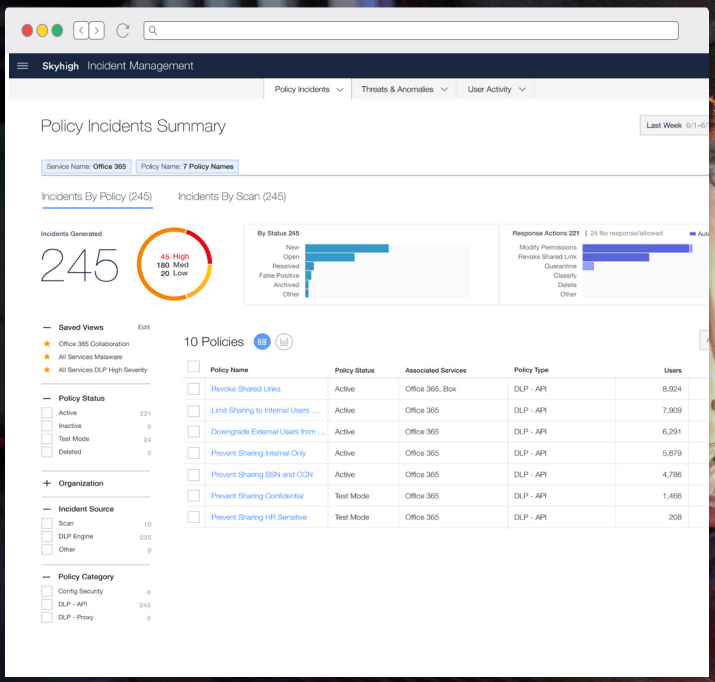


Key features:

- **Visibility:** Continuously discovers cloud service usage, leveraging the world's largest and most accurate cloud registry
- **Threat protection:** Analyses cloud activity, developing an accurate and continuously updated model of user behaviour
- **Compliance:** Identifies sensitive data in motion or at rest in cloud services to meet your compliance requirements
- **Data security:** Enforces data-centric security policies including encryption with your own keys, contextual access control and information rights management

By using cloud access security brokers, you can:

- Identify what Shadow IT cloud services are in use
- Assess and select cloud services that meet security and compliance requirements
- Shield sensitive data in the cloud by encrypting and tokenizing data
- Categorize potential misuse of cloud services, including activity from employees as well as third parties
- Implement differing levels of data access and cloud service functionality depending on the user's device, location, and operating system
- Enforce sensitive data policies across Office 365. Prevent sharing of sensitive or regulated data in Office 365 with unauthorized parties in real-time



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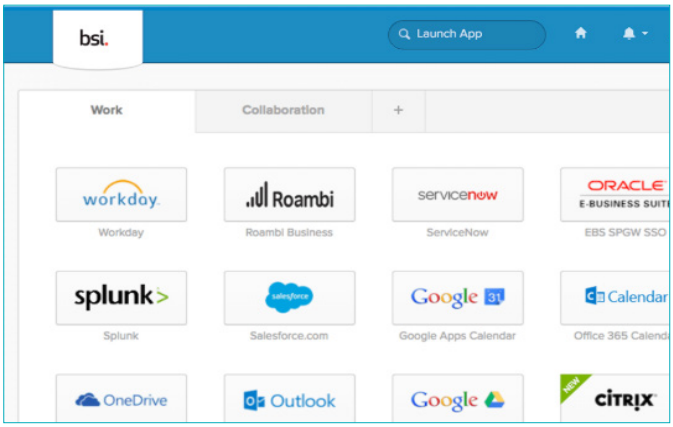
Identity and Access Management

An Identity and Access Management (IAM) solution is indispensable for all businesses to avoid potential data breaches. IAM enables the right people to access the right resources at the right times for the right reasons. BSI partners with Okta to provide a secure identity cloud that helps companies to manage employees' passwords, by providing a single sign-on (SSO) experience. This solution is recognized by Gartner as a leader in the Magic Quadrant for Access Management.



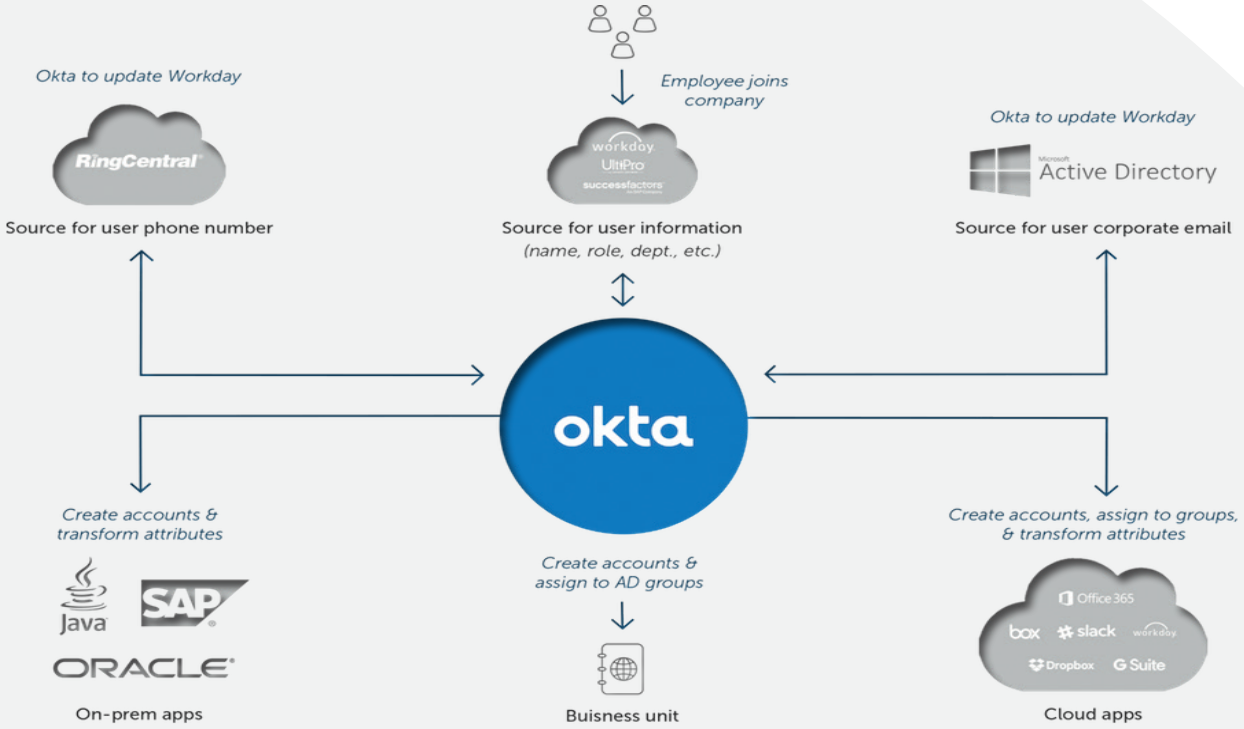
Key features:

- **Economic:** Decrease IT costs while increasing operational efficiency
- **Efficient:** Provide services to help the business grow faster
- **Protect:** Secure your environment by securing your users' identities
- **Timely**: Connect all your apps in days, not months

Okta solves security issues with a single integration point for all cloud and web-based application and active directory integrations. This platform allows employees to access applications on any device at any time, while still enforcing strong security protections. It integrates directly with an organization's existing directories and identity systems.

This solution provides seamless access to any of Microsoft's newer online services beyond Office 365. By using Okta as an identity provider to Office 365, organizations get the ability to join devices, use Windows Hello facial recognition, and securely access non-SSO applications using the Okta Windows Edge browser plugin.

Master and sync user information from multiple sources in Okta



Okta's identity platform also manages identity, provisioning, and security for thousands of non-Microsoft applications, providing the broadest and deepest IAM solution for the cloud. More than 900 organizations and thousands of users trust Okta for Office 365 every day.

Data Management in the Cloud

The amount of data generated everyday by organizations is growing at an unprecedented rate. These huge volumes of data need to be saved not just for analytic purposes, but also in compliance with laws and service level agreements to protect and preserve data. BSI partners with Druva, a leader in cloud data protection and information management, to protect, preserve and discover information. Druva's cloud platform provides a simple, scalable approach to take control of organizations' most critical data.

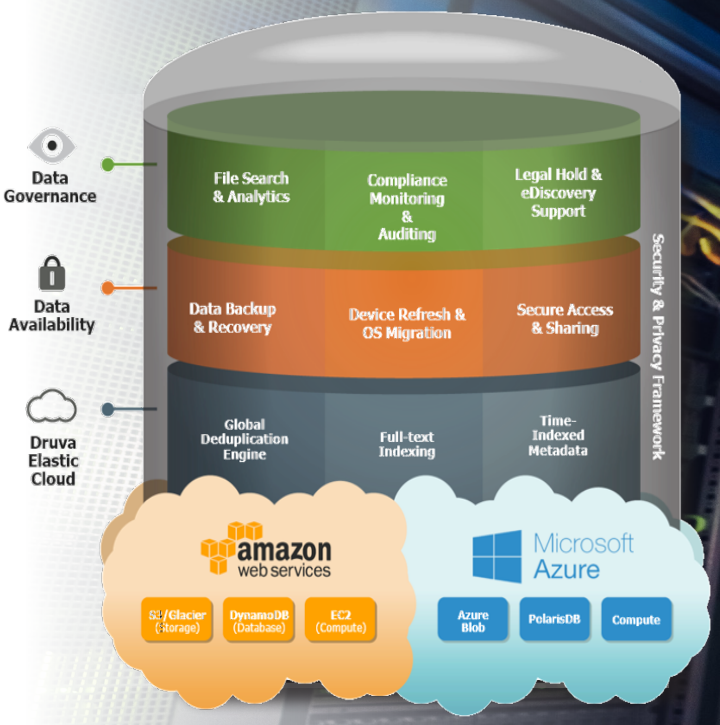
Druva's award-winning solution intelligently collects data, and unifies backup, disaster recovery, archival and governance capabilities onto a single, optimized data set.

This platform draws on public cloud infrastructures like Amazon AWS and Microsoft Azure. It acts as a distributed file system with a centralized store of data that can be accessed by a number of applications that leverage a common architecture, user interface and security model.

Organizations get visibility and control across their entire data footprint, while realizing the full value and efficiency of the cloud.

Key features:

- **Ransomware**: Full self-service data recovery, in the event of an attack
- **Data governance:** Single access point for compliance monitoring, archiving and eDiscovery. Ensures your critical Office 365 data is safe from user error
- **Endpoint backups**: Provide governance via visibility into data stored on corporate users devices
- **VM Disaster Recovery**: Provide backup VMs and easily configure for Disaster Recovery (DR) with immediate failover for critical workloads



The platform is broken into three products, InSync, Phoenix and CloudRanger:

Druva inSync

provides a simple approach to protecting, preserving and discovering your data, while reducing costs, risk and complexity across endpoints and cloud applications like Office 365, Google G Suite, Box, and Salesforce.

Druva Phoenix

delivers data availability and governance for enterprise infrastructure. It combines high-performance, scalable backup, DR, archival and analytics to simplify data protection, improve visibility and dramatically reduce the risk, cost and effort of managing today's complex information environment.

Druva CloudRanger

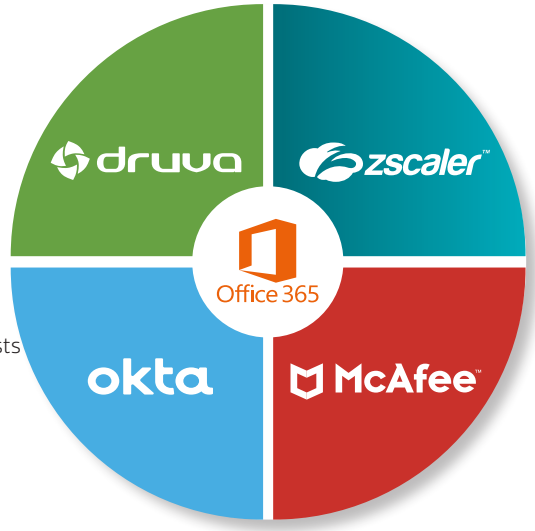
unifies and simplifies the automated disaster recovery and day-to-day data management of your AWS EC2, EBS, RDS or Redshift workloads. It's one solution to manage it all – delivering fast recovery, insights to keep businesses running cost efficiently.

Plan and architect an optimized Office 365 network

When deploying Office 365, Gartner recommends using third-party offerings to address gaps in its native capabilities.

- Protection of all end-user' data
- Data recovery and availability
- Data governance
- Third-party managing archival

- Zero downtime and instant failover for active directory integration
- Connects untrusted domains and forests
- Automated configuration and role assignment
- Multi-factor authentication (MFA)



- Direct-internet connections to a cloud security platform
- Simplifies administration, improves control, and increases visibility
- Prioritizes Office 365 for a better user experience
- Peers with Office 365 in major data centres

- Enforces sensitive data policies
- Builds sharing and collaboration guardrails
- Understands, audits and tightens cloud security services
- Detects and corrects user threats and malware

Implementing Office 365

As more organizations adopt Microsoft Office 365, new questions arise about the security and compliance of corporate data. Gartner's research recommends evaluating third- party security vendors if security gaps exist and mitigating some of the security challenges. BSI partners with leading cloud security solutions providers that address these gaps. Review five simple tips to assist your organization during the Office 365 deployment:

1. Optimized deployment
With cloud services such as Office 365, data isn't in a 'place' anymore - it is in many locations. Zscaler is designed to deliver a great user experience while reducing MPLS spend and avoiding forklift upgrades to firewalls. The solution enables organizations to bypass security appliances as per Microsoft's recommendation, while still securing the rest of open internet direct connection. With the Office 365 One Click configuration feature, Zscaler automatically configures authentication exemption and decryption exemption rules required for the service to seamlessly support and secure Office 365 traffic.

2. Improved connectivity and performance
Regardless of users' location, Zscaler enables direct connections through the cloud and delivers the fastest path to Microsoft. Zscaler's cloud firewall scales elastically to support the massive number of persistent Office 365 connections. The solution data centres increasingly peer with the Microsoft cloud resulting in 1-2ms round trip times. With Zscaler's optimized TCP stack, faster negotiated rates and local DNS connects to Microsoft's CDN, network hop latency is reduced resulting in network path optimization.

3. Data protection
Regularly backing up data is crucial. If regulatory authorities, courts or any other authority request access to data related to specific matters organizations may struggle to obtain the required data which may result in penalties. To bridge this data gap, Druva peers with Office 365 via APIs to enable cloud-to-cloud backups to their security cloud on AWS. Druva's centralized portal provides organizations with full data visibility, text search indexing, time indexed metadata, end to end encryption, block level deduplication and regional data locations.

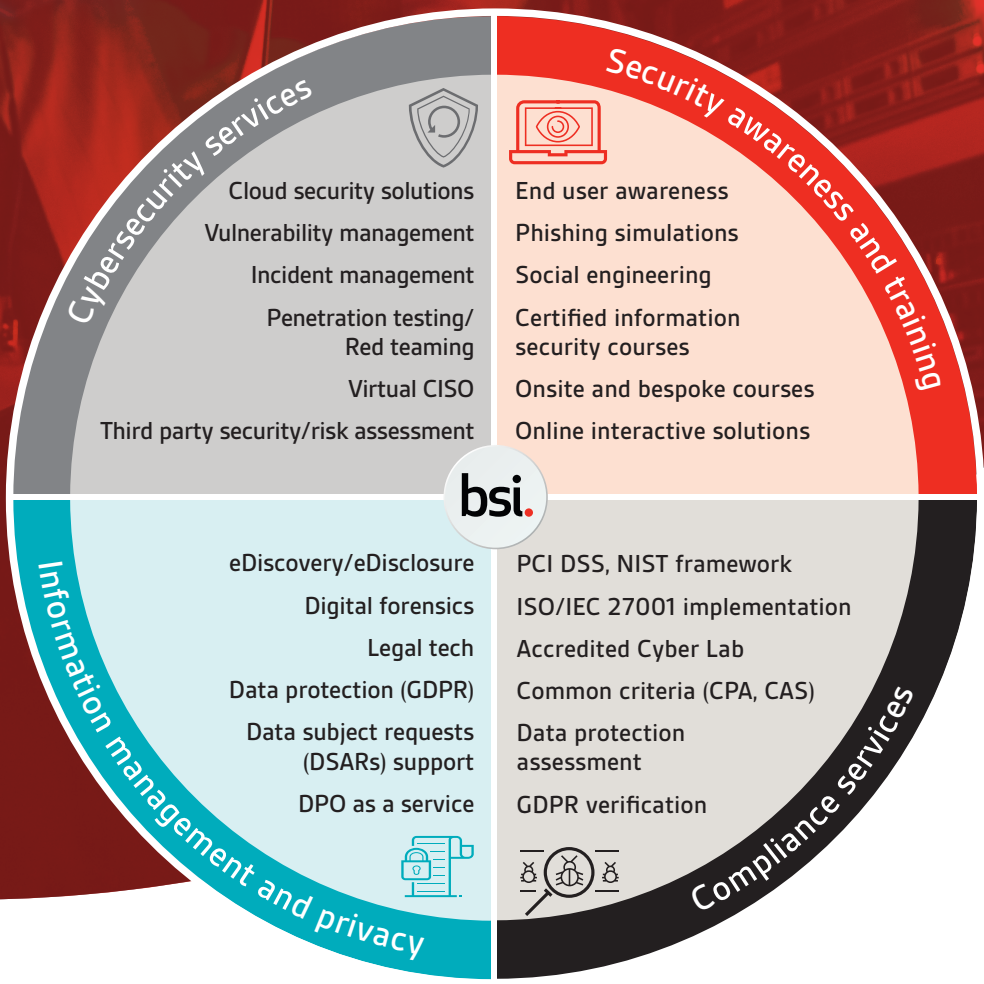
4. Data governance and loss prevention
The risk of intellectual property theft or loss is a major concern for organizations. The ease of sharing and moving data to and from cloud applications has magnified the potential for errors and exposed greater volumes of data to malicious users. Gartner strongly recommends a CASB to add more robust DLP, User Behaviour Analytics (UBA), and policy enforcement capabilities. McAfee's MVision CASB helps organizations to extend the security controls of their on-premises infrastructure to the cloud and stay ahead of these threats. MVision's approach of identifying data to give context, access and define sensitivity, controlling data by taking real-time actions and protecting data once it leaves, enabling users to configure DLP policies, run on-demand scans for OneDrive, SharePoint and Exchange Online and configure the appropriate DLP responses, reporting and alerting.

5. Active Directory integration
In order to use Office 365 applications, on-premises Active Directory (AD) users must be connected to Microsoft Azure AD in the cloud. Utilizing Okta for Office 365 allows organizations to solve complex deployments. Okta was designed to minimize the on-premises footprint while maximizing the advantages of cloud infrastructure. Okta enables enterprises with Active Directory to quickly and securely extend employee identity to Office 365 without using ADFS or Azure AD Connect. It's an identity solution that works in real-time, minimizing user disruptions and enhancing security. By employing features such as multi-factor authentication and single sign-on, Okta's universal directory and API access management, organizations achieve secure connectivity for any authenticated user to benefit any authorized service and via any device.

BSI Cybersecurity and Information Resilience

Protecting your information, people and reputation

BSI Cybersecurity and Information Resilience helps you address your information challenges. We enable organizations to secure information, data and critical infrastructure from the changing threats that affect your people, processes and systems; strengthening your information governance and assuring resilience. Our cyber, information security and data management professionals are experts in:



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